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(12) AUSTRALIAN PATENT ABRIDGMENT

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(54) SULKY

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93.2

(57) A sulky is fitted with adjustable wheelbase such that the down load on the drawbars can be varied.

Claim

1. A sulky including a substantially U-shaped frame able to be engaged with a horse such that the arms of said "U" are positioned one each side of said horse, a wheel mounting member pivotally affixed to said frame so that at least parts of said wheel mounting member extend below said frame and, in use, mount wheels below the frame, a link or links pivotally affixed at or adjacent one end thereof to said wheel mounting member and engageable adjacent the other end thereof with said frame at a selected one or a plurality of available positions so that, by changing the position of engagement of the or each said link with said frame, the angle in a substantially vertical plane between said frame and said wheel mounting member may be varied.

PATENTS ACT 1952-69

COMPLETE SPECIFICATION

(ORIGINAL)

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Address for Service: Griffith, Hassel & Frazer,
323 Castlereagh St.,
SYDNEY N.S.W. 2000 AUSTRALIAComplete Specification for the invention entitled: "IMPROVEMENTS IN OR RELATING TO A
SULKY"

The following statement is a full description of this invention, with the best method of performing
it known to me/us:-

This invention relates to a sulky.

The invention provides a sulky which includes a substantially U-shaped frame which is arranged to be engaged with a horse such that the arms of the "U" are positioned one at each side of the horse. A wheel mounting member is pivotally affixed to the frame so that parts at least of the wheel mounting member extend below the frame and, in use, mount wheels below the frame. A link or links is or are pivotally affixed at or adjacent one end thereof to the wheel mounting member and is or are engageable adjacent the other end thereof with the frame at a selected one of a plurality of available positions. The arrangement is such that, by changing the position of engagement of the or each said link with the frame, the angle (in a substantially vertical plane) between the frame and the wheel mounting member may be varied.

To those skilled in the art to which this invention relates, many changes in construction and widely differing embodiments and applications of the invention will suggest themselves with-



out departing from the scope of the invention as defined in the appended claims. The disclosures and the description herein are purely illustrative and are not intended to be in any sense limiting.

5 One preferred form of the invention will now be described with reference to the accompanying drawings in which,

Fig. 1 is a side elevation of a sulky according to the invention,

Fig. 2 is a rear view of a sulky according to the invention, part of the frame being removed for clarity,

Fig. 3 is a plan view of part of a sulky frame according to the invention,

Fig. 4 is a plan view of one shaft end piece for a sulky frame according to the invention, and

15 Fig. 5 is a diagrammatic side elevation of a seat for use in a sulky according to the invention.

In the preferred form of the invention a sulky and/or a wheel mounting member for a sulky are provided as follows.

In the invention a sulky 1 is provided which comprises a substantially U-shaped member 2 which is brought closer together at the ends 3, becoming wider at a position 4 and passing through a substantially rounded U-shaped base part 5. The dimensions of the U-shaped frame member 2 are such that in particular, between the regions 3 and 4 substantial clearance is provided between the sulky arms or frame arms and a horse (not shown) contained therein. Suitable mounting apparatus (not shown) such as straps and the like are provided on the sulky so that the sulky can be engaged with a horse. Such

mounting apparatus will, in general, be of types presently known.

In the preferred construction the U-shaped frame member 2 is constructed of a metal in particular tubular steel, the diameter of which is selected so as to provide substantial rigidity during use but so that some flexibility is obtained should unusual forces such as may arise during a collision or fall occur. The member 2 may be constructed for example of 30mm stainless steel tube, preferably polished to provide an attractive appearance.

A wheel mounting member 6 is provided and the wheel mounting member may take the form of a pair of substantially U-shaped frames 7 and 8 which are preferably substantially square-bottomed. Again the material is selected to give suitable strength and for example 10mm x 25mm rectangular chromed steel is suitable and a pair of wheels 9 such as bicycle type spoked wheels are able to be positioned between the adjacent ends 10 and 11 of the arm of the U-shaped members 7 and 8. The wheels 9 are preferably fixed by means of an axle passing through apertures in ends 10 and 11 and fixed with nuts. The substantially U-shaped members 7 and 8 lie in substantially the same plane and the inner U-shaped member 8 is preferably supported by a substantially U-shaped arch member 13 which is affixed to the member 8 in a substantially non-removable manner, for example, by welding at the ends 14 of the arch 13 and at the position 15 where the base of the arch 13 and the base of the U-shaped member 8 come together. Further support is gained by bracing supports 16 welded between the member 8

and the arch member 13 preferably positioned adjacent a corner of the member 8 and being substantially perpendicular to the arch member 13.

The first and second U-shaped members 7 and 8 are preferably engaged in a removable or non-permanent manner and to this end a pair of supports 17 may be provided, preferably welded or otherwise affixed in a relatively permanent manner to the outer face of the member 8 but being able to be engaged by bolts(not shown) at 18 or the like passing through the outer U-shaped member 7 and engaging, for example, into a captive bolt or other construction in the support 17.

Further bolts (not shown) may be provided at positions such as positions 19 wherein the first U-shaped member 7 and the second U-shaped member 8 are adjacent one to the other and suitable apertures are provided for this purpose.

The wheel mounting member 6 is preferably engaged with the frame 2, the arms being shown in cross-section in Fig. 2. It is desired that the angle between the wheel mounting member 6 and the frame 2 be variable and to this end through hinges 20 are provided between the mounting member 6 and the frame 2, there being preferably two such hinges. The frame 2 preferably passes between the members 7 and 8 as shown in Fig. 2. In order to stabilise the construction a link is provided between the wheel mounting member 6 and the frame 2 and the link may comprise a bar which is preferably bifurcated to form arms 21a and 21b (collectively referenced) being able to be positioned outside the extremities of the arms of the U-shaped members 7 and 8 at the side of the wheel mounting member 6 but being brought together at the other ends 22 of the link. A pivotal connection is obtained between the wheel mounting member 6 and

the link 21 for example by mounting the link 21 on the wheel axle or spindle.

The position of engagement between the link 21 and the frame 2 is able to be varied and this may be achieved by providing a plate 23 having a plurality of apertures positioned for example as shown in Fig. 1 and providing an aperture in the link 21 so that a bolt or pin 24 may be passed through aligned selected apertures.

A foot rest 25 is preferably provided on the frame 2 for use by the driver of the horse and sulky. Thus the foot rest may be positioned between frame 2 and a bracing cross strut 26. The bracing of frame 2 may be increased by a further curved member 27 which may be positioned, for example, by welding in the position shown in Fig. 3. The ends of the frame may be provided with a thread, preferably a female thread so that a male threaded insert 28 may be inserted therein. Various lengths of insert 28 may be provided and the external diameter of insert 28 is preferably substantially equal to the external diameter of frame 2.

A seat 30 is provided for the sulky which includes a platform 31 mounted on at least one but preferably a pair of apertured runners 32 which pass into channels such as channels 33. The channels 33 are preferably provided each by a pair of spaced apart channel members 34, each of which has an aperture (not shown) therein and is associated with a pin 35. The pins 35 are biased into the aperture, for example, by being mounted on a leaf type spring, in the channel 34 and also the apertures in the runners 32. To shift the seat the pin 35 is pulled

outwardly against the spring tension, the seat moved and the pins 35 then allowed to re-enter a further selected aperture in the runners 32. The pins 35 are preferably connected by a member 36 so as to act together and the channels 34 are preferably mounted on frame 2 through a pair of pillars 37.

The use of the invention is as follows.

In use, the sulky once engaged with a horse through the appropriate straps and halters or other elements is arranged as follows.

It is desirable that the weight of the sulky be distributed so that the arms of the frame will lift preferably only a small extent from the horse. The position of the point of balance will be affected by several factors, for example, the weight of the driver, the height of the horse and the position of the wheels with respect to the frame.

In the preferred construction described the position of the wheels 9 relative to the frame 2 may be varied by varying the position of engagement between the link 22 and the frame 2 by removing the bolt or pin 24 and inserting in other apertures. Some compensation may also be gained by varying the position of the platform 31 of the seat by removing the pins 35 against the biasing force, shifting the seat and allowing the pins 36 to become re-inserted into the runners.

Thus, it can be seen that at least in the preferred form of the invention a sulky is provided which has the advantage that the weight distribution of the sulky may be varied and this is advantageous as it allows the weight distribution of

the sulky to be brought to the most satisfactory distribution for a particular horse and driver. In particular, the weight of the arms 2 can be removed from the back of the horse, thus allowing a horse when racing to perform to its true ability.

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THE CLAIMS DEFINING THE INVENTION ARE AS FOLLOWS:

1. A sulky including a substantially U-shaped frame able to be engaged with a horse such that the arms of said "U" are positioned one each side of said horse, a wheel mounting member pivotally affixed to said frame so that at least parts of said wheel mounting member extend below said frame and, in use, mount wheels below the frame, a link or links pivotally affixed at or adjacent one end thereof to said wheel mounting member and engageable adjacent the other end thereof with said frame at a selected one or a plurality of available positions so that, by changing the position of engagement of the or each said link with said frame, the angle in a substantially vertical plane between said frame and said wheel mounting member may be varied.

2. A sulky as claimed in claim 1 wherein said wheel mounting member comprises an inverted further substantially U-shaped member engaged with said frame.

3. A sulky as claimed in either claim 1 or claim 2 wherein hinges are provided between the base of said wheel mounting member and said frame to form pivots therebetween.

4. A sulky as claimed in any one of the preceding claims wherein said link comprises a bifurcated link and said wheel mounting member has a pair of arms at each side thereof, each said pair of arms being engaged with said bifurcated link.



5. A sulky as claimed in any one of the preceding claims wher in engagement means are provided between said frame and said link.

6. A sulky as claimed in claim 5 wherein said engagement means comprises an apertured panel engaged with said frame and an aperture in said link so that pins, bolts or the like may be passed through the aperture in said link and a selected aperture in said apertured panel.

7. A sulky as claimed in any one of the preceding claims and further including a seat, said seat comprising one or more apertured channels, the or each apertured channel having an apertured runner movable therein, a pin asociated with the aperture in said channel able to pass through the aperture in said channel to engage a selected aperture in said runner, biasing means associated with said pin to bias said pin into one of said apertures in said runner in a removable fashion, and a platform mounted on said runner or runners.

8. A sulky as claimed in claim 7 wherein two channels are provided.

9. A sulky as claimed in either claim 7 or claim 8 wherein each said channel has one pin associated therewith.

10. A sulky as claimed in any one of claim 7 to 9 wherein said biasing means comprise a tension spring positioned between the head of said pin and the outer face of the base of said channel member.



11. A sulky as claimed in claim 1 wherein the wheel mounting member comprises a first inverted substantially U-shaped member, a second inverted substantially U-shaped member lying in substantially the same plane as said first substantially U-shaped member but being positioned within the boundaries of said first substantially U-shaped member, and means to enable said wheels to be engaged between adjacent ends of an arm of said first and second substantially U-shaped members.-

12. A sulky as claimed in claim 11 wherein an inverted substantially U-shaped arch member is provided within said second substantially U-shaped member, said arch member being fixed to said second substantially U-shaped member in a substantially non-removable fashion.

13. A sulky as claimed in claim 11 or claim 12 wherein said first substantially U-shaped member and said second substantially U-shaped member are engaged one with the other in a removable fashion.

14. A sulky substantially as herein described with reference to the accompanying drawings.

Dated this 27th day of February 1984.

CONTENTINETAL ENGINEERING LIMITED
by their Patent Attorney

R. Walton

of GRIFFITH HASSEL & FRAZER



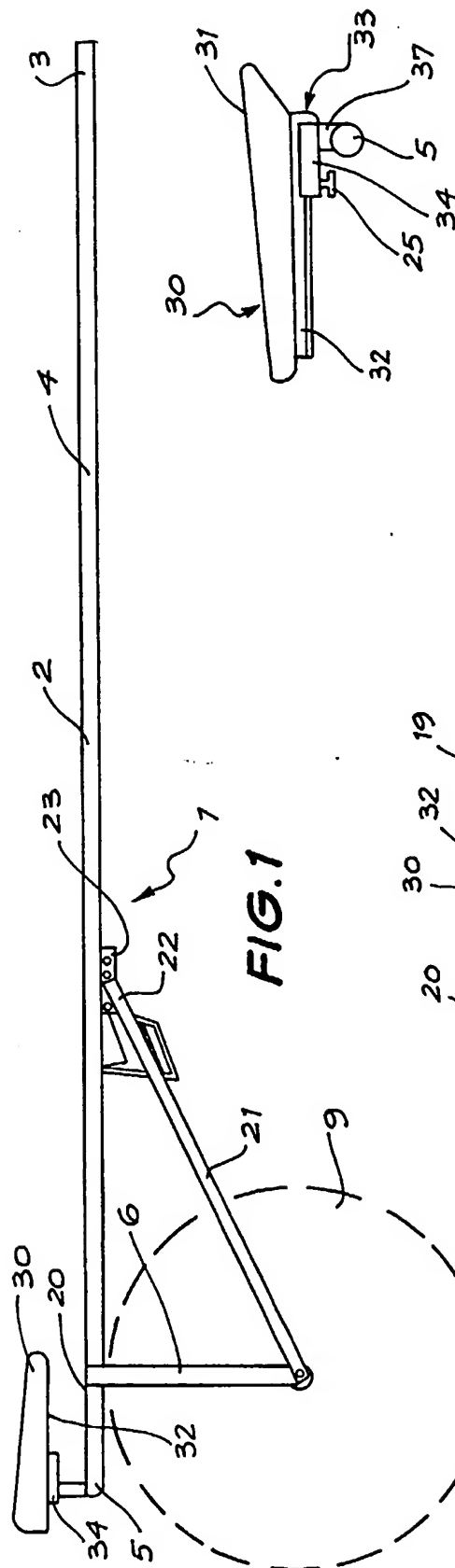


FIG. 5

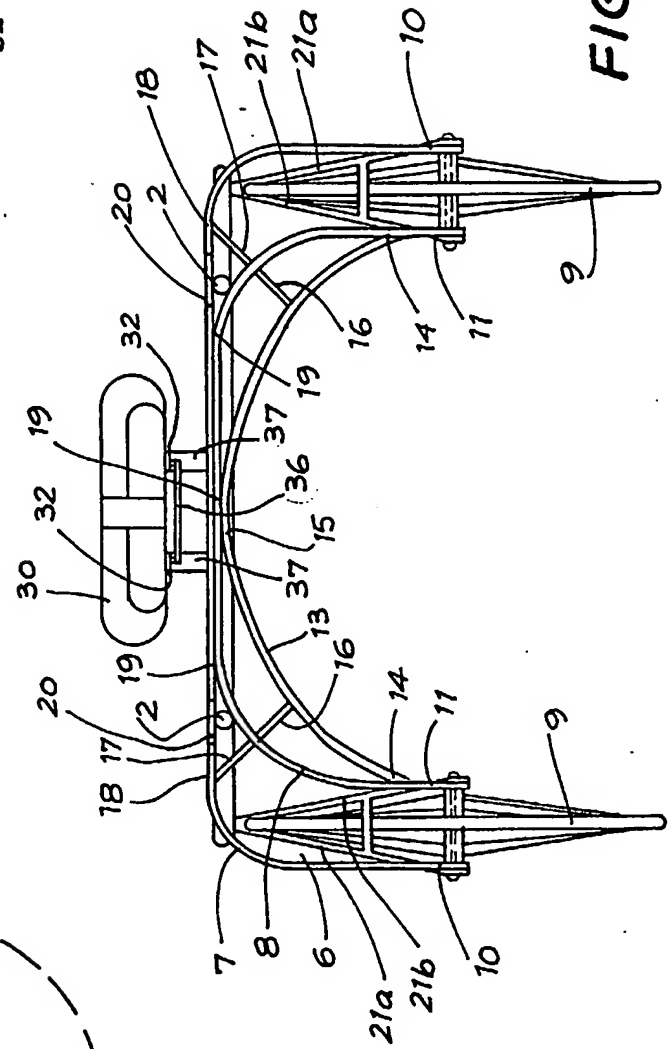


FIG. 2

13 40 00 00 48

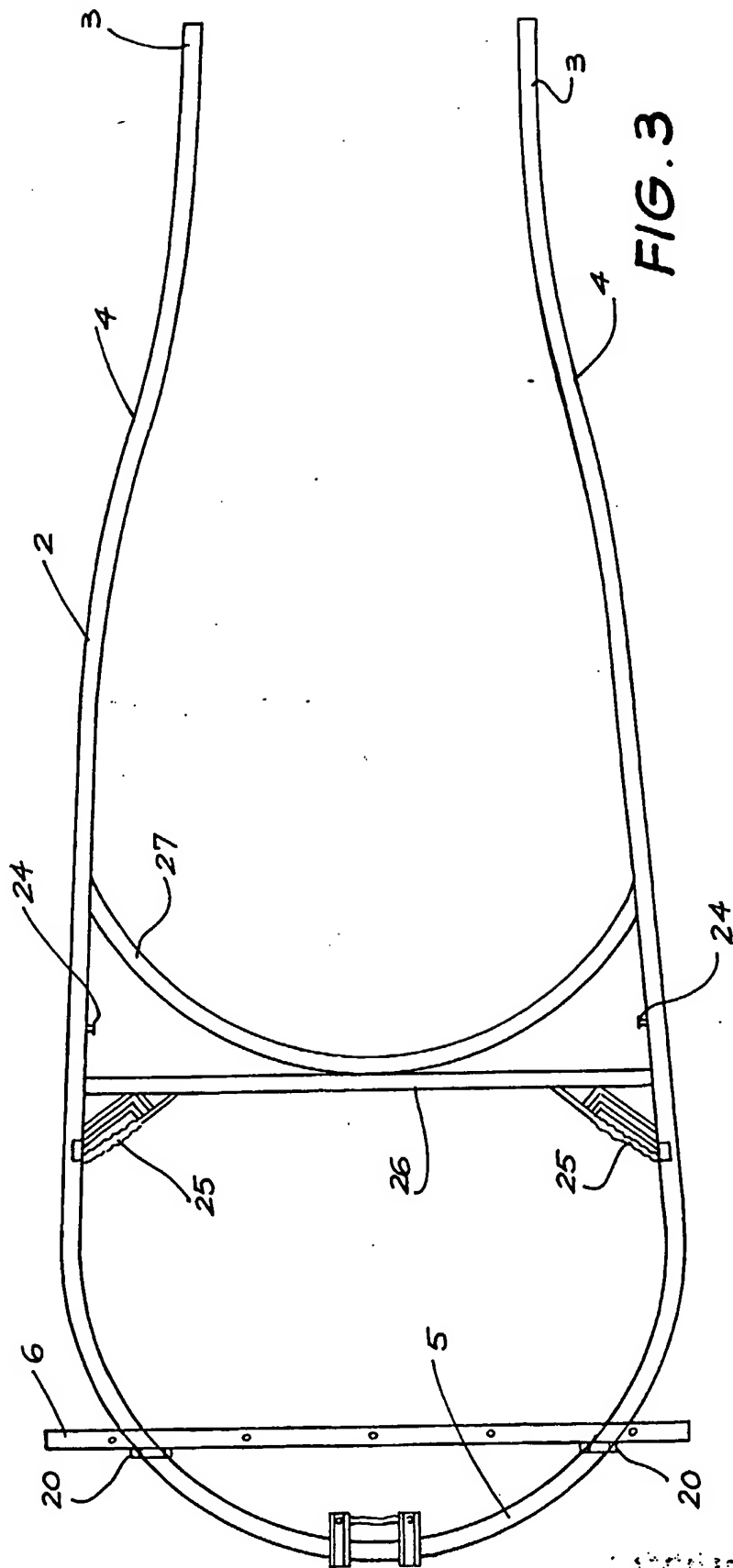


FIG. 4



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FIG. 4